UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
KHOSHNOODI, NADIA

ART UNIT	PAPER NUMBER
2137	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/775,791	KESAL ET AL.
	Examiner	**Art Unit**	
	NADIA KHOSHNOODI	2137	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12/19/2008*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26 and 28-30* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-26 and 28-30* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *10 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Claim 27 has been cancelled. Applicant's arguments/ amendments with respect to the

pending claims filed 12/19/2007 have been fully considered and therefore the claims are rejected

under new grounds. A 2nd Non-Final Office Action appears below.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or
> any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
> requirements of this title.

Claims 1-26 and 28 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter, as they claims to fall under an article of

manufacture/process, however are reduced to a mere software execution and therefore do not fall

under any of the statutory classes of inventions (see below for a more detailed explanation). The

language in the claims raise an issue because the claims are directed merely to an abstract idea

that is not tied to an article of manufacture which would result in a practical application

producing a concrete, useful, and tangible result to form the basis of statutory subject matter

under 35 U.S.C. 101.

Although the claims are defined as a system, the means/components/steps of

implementing this system/method in accordance with page 6 of Applicant's Disclosure reduces

the elements to software execution without specifically tying it to hardware components, i.e. an

article of manufacture in the body of the claim. Furthermore, the claims are not a practical

application of an abstract idea. The result of these claims is not in a tangible form. Rather, in

accordance with the Specification, they are abstract results provided by a mathematical/

computational procedure. Merely producing a watermark and embedding it into content is not

tied and does not correspond to the real world, i.e. the results are left to an abstract idea. Also, in

order to meet the "useful" requirement, there must be some application implemented based on

the results.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
subject matter which the applicant regards as his invention.

Claims 13 and 25 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for

failing to particularly point out and distinctly claim the subject matter which applicant regards as

the invention. The use of the term "approximately" in reference to "100Hz" and "3,000Hz"

renders the claim unclear because the range of the term "approximately 100Hz" or

"approximately 3,000Hz" is not defined.

Allowable Subject Matter

Claim 20 would be allowable if rewritten to overcome the rejection(s) under 35

U.S.C. 101, set forth in this Office action and to include all of the limitations of the base claim

and any intervening claims.

Claim Rejections - 35 USC § 102

I.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

II.   Claims 1-2, 8-12, 15, 24, and 28-30 are rejected under 35 U.S.C. 102(e) as being fully

anticipated by Ogino et al., US Pub. No. 2004/0003253.

As per claims 1, 15, and 28:

        Ogino et al. teach a system, method, and computer readable medium that facilitate

watermarking media, comprising: a mark generator component that utilizes, at least in part,

biased, randomized statistics to determine at least one mark value for media (par. 5, par. 8, and

par. 74); and a mark embedding component that embeds the mark value into the media (par. 92).

As per claim 2:

        Ogino et al. teach the system of claim 1. Furthermore, Ogino et al. teach the biased,

randomized statistics based, at least in part, on randomly generated areas of a two-dimensional

form of the media and a random entry value for each area (par. 6-8 and par. 102-105).

As per claim 8:

        Ogino et al. teach the system of claim 1. Ogino et al. further teach the system further

comprising: a noise mark generator component that embeds at least one independent noise mark

value over the mark value (par. 105).

As per claim 9:

Ogino et al. teach the system of claim 8. Ogino et al. further teach the noise mark

generator component and the mark generator component respectively generate the noise mark

value and the mark value so as to be dedicated to a single entity (par.105).

As per claim 10:

Ogino et al. teach the system of claim 1. Ogino et al. further teach the system further

comprising: a mark detection component that detects the mark value utilizing, at least in part,

statistical correlation methods (par. 117).

As per claim 11:

Ogino et al. teach the system of claim 10. Ogino et al. further teach the mark detection

component determines a unique user based, at least in part, on the statistical correlation methods

correlating above a predetermined threshold level (par. 118-119).

As per claims 12 and 24:

Ogino et al. teach the system and method of claims 1 and 15. Ogino et al. further teach

the media comprising an audio signal (par. 89).

As per claims 29 and 30:

Ogino et al. teach wherein the device employing the method/system of claims 15 and 1

comprising at least one selected from the group consisting of a computer, a server, and a

handheld electronic device (par. 55).

Claim Rejections - 35 USC § 103

III.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

IV.   Claims 3 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogino et al., US Pub. No. 2004/0003253 as applied to claim 2 above, and further in view of Alattar et al., US Pub. No. 2002/0009208.

As per claim 3:

Ogino et al. substantially teach the system of claim 2, the random entry value of each area based, at least in part, on a user-unique id (par. 90-92). Not explicitly disclosed is wherein the random entry value of each area based, at least in part, on a user-unique key. However, Alattar et al. teach that the watermark key may be derived from unique user attributes, i.e. user id (par. 244-245). Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Ogino et al. to have the random value of each area to be based at least in part on the user key. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since Alattar et al. suggest that using a user unique feature to derive the watermark key allows for positive identification of the content in par. 243.

As per claim 21:

Ogino et al. teach the method of claim 15. Furthermore, Ogino et al. teach the method further comprising generating a first mark value for a particular location in the media utilizing a first user id for a user (par. 91); generating a second mark value for the particular location in the media utilizing a second user id for the same user (par. 92); and utilizing the combined first and second mark values as the embedded mark value for the particular location in the media (par.

105). Not explicitly disclosed is the method wherein the first and second user id's are a user key and second user key. However, Alattar et al. teach that the watermark key may be derived from unique user attributes, i.e. user id (par. 244-245). Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Ogino et al. to have the random value of each area to be based at least in part on the user key. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since Alattar et al. suggest that using a user unique feature to derive the watermark key allows for positive identification of the content in par. 243.

V.   Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogino et al., US Pub. No. 2004/0003253 as applied to claims 2 above, and further in view of Malvar et al., US Patent No. 6,496,795.

As per claims 4:

        Ogino et al. substantially teach the system of claim 2. Not explicitly disclosed is the two-dimensional form of the media comprising a form generated by a Short-Time Fourier Transform (STFT) method applied to a time-domain audio signal. However, Malvar et al. teach the use of STFT applied to a time-domain audio signal (col. 5, lines 16-31 and col. 8, line 66—col. 9, line 14). Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Ogino et al. to generate the two-dimensional form of the media by using STFT. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since Malvar et al. suggest that the properties of STFT provide for perfect signal reconstruction

in col. 5, lines 22-26.

As per claims 5:

    Ogino et al. and Malvar et al. substantially teach the system of claim 4. Furthermore,

Malvar et al. teach the Short-Time Fourier Transform method comprising a Modulated Complex

Lapped Transformation (MCLT) method (col. 5, lines 16-31).

VI.   Claims 6-7 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogino

et al., US Pub. No. 2004/0003253 as applied to claims 2 above, and further in view of Liang, US

Patent No. 6,373,965.

As per claim 6:

    Ogino et al. substantially teach the system of claim 2. Not explicitly disclosed is wherein

the randomly generated areas comprising a plurality of randomly generated areas with a subset of

overlapping areas. However, Liang teaches that overlapping areas may be randomly selected.

Therefore, it would have been obvious to a person in the art at the time the invention was made

to modify the method disclosed in Ogino et al. to randomly select the overlapping areas. This

modification would have been obvious because a person having ordinary skill in the art, at the

time the invention was made, would have been motivated to do so since Liang suggests the use

of randomly selecting overlapping areas in order to avoid being easily predictable by a

counterfeiter (col. 15, lines 1-10).

As per claim 7:

    Ogino et al. and Liang substantially teach the system of claim 6. Furthermore, Ogino et

al. teach the mark generator component determines the mark value of overlapping areas based, at

least in part, as a function of at least one selected from the group consisting of counts and signs

associated with respective areas of the subset (par. 103-104).

As per claim 26:

Ogino et al. teach a computer-implemented system that facilitates watermarking media,

comprising: means for utilizing, at least in part, biased, randomized statistics that employ at least

one subset of, overlapping areas with respective entry values of a two-dimensional media form to

determine at least one media mark value (par. 5, par. 8, par. 93-95, and par. 103-104); means for

embedding the media mark value into media (par. 105); and a computer readable media

comprising at least one of the means for utilizing and the means for embedding (par. 105). Not

explicitly disclosed is wherein the overlapping areas are randomly selected. However, Liang

teaches that overlapping areas may be randomly selected. Therefore, it would have been obvious

to a person in the art at the time the invention was made to modify the method disclosed in

Ogino et al. to randomly select the overlapping areas. This modification would have been

obvious because a person having ordinary skill in the art, at the time the invention was made,

would have been motivated to do so since Liang suggests the use of randomly selecting

overlapping areas in order to avoid being easily predictable by a counterfeiter (col. 15, lines 1-

10).

VII.   Claims 13 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogino

et al., US Pub. No. 2004/0003253 as applied to claims 12 and 24 above, and further in view of

Sato et al., US Patent No. 7,299,189.

As per claims 13 and 25:

Ogino et al. substantially teach the system and method of claims 12 and 24. Not explicitly disclosed is the mark generator component utilizes a range of audio signal frequencies from 100 Hz to 3,000 Hz from the audio signal to determine mark values. However, Sato teaches that each block should have a frequency band of a smaller signal where the frequency falls within a smaller range per block (col. 16, lines 14-26). Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Ogino et al. to have the range of one of the particular blocks fall within the range 100Hz to 3,000Hz. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since Sato suggests that performing this division reduces the error rate on the audio signal in col. 16, lines 27-35.

VIII.   Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogino et al., US Pub. No. 2004/0003253 as applied to claim 1 above, and further in view of Iu et al., US Patent No. 6,901,514.

As per claim 14:

Ogino et al. substantially teach the system of claim 1. Not explicitly disclosed is the mark value comprising a logarithmic magnitude value. However, Iu et al. teach the use of watermark encoding/decoding schemes developed to fall within the log-magnitude domain. Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Ogino et al. to for the mark value to comprise a logarithmic magnitude value. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since Iu et al.

suggest that watermark encoding/decoding are simplified if they are performed in a logarithmic

domain in col. 4, lines 29-59.

IX.   Claims 16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogino

et al., US Pub. No. 2004/0003253 as applied to claims 2 above, and further in view of Bradley et

al., US Pub. No. 2002/0159614.

As per claim 16:

Ogino et al. substantially teach the method of claim 15. Furthermore, Ogino et al. teach

utilizing the statistics to determine at least one mark value further comprising: generating

random areas with a subset of overlapping areas within a two-dimensional form of the media

(par. 101-104) and randomly assigning an entry value to each random area utilizing a user id

(par. 90-92). Not explicitly disclosed is utilizing the statistics to determine at least one mark

value further comprising: randomly assigning utilizing a user key; and determining the mark

value at a particular location of the two-dimensional media form utilizing at least one Bernoulli

parameter derived from the random area entry values. However, Bradley et al. teach the use of

keys and the use of Bernoulli random variables in determining the mark value at particular

locations (par. 31-32). Therefore, it would have been obvious to a person in the art at the time

the invention was made to modify the method disclosed in Ogino et al. to incorporate the use of

user-unique keys and Bernoulli random parameters in determining the mark value at particular

locations. This modification would have been obvious because a person having ordinary skill in

the art, at the time the invention was made, would have been motivated to do so since Bradley et

al. suggest that Bernoulli random variables describe the probability of error based on

corresponding key entries in par. 30.

As per claim 19:

Ogino et al. and Bradley et al. substantially teach the method of claim 16. Furthermore,

Bradley et al. teach determining the mark value further comprising: determining a number of

random areas containing the particular location (par. 31-32); determining a number of random

areas containing the particular location with a first particular entry characteristic (par. 33-37);

determining a number of random areas containing the particular location with a second particular

entry characteristic (par. 33 - 37); calculating a Bernoulli parameter based, at least in part, on the

first and second particular entry characteristics and a bias value; and selecting the mark value

based on the Bernoulli parameter (par. 38).

X.   Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogino et

al., US Pub. No. 2004/0003253 and Bradley et al., US Pub. No. 2002/0159614 as applied to

claims 16 above, and further in view of Malvar et al., US Patent No. 6,496,795.

As per claim 17:

Ogino et al. and Bradley et al. substantially teach the method of claim 16. Not explicitly

disclosed is the two-dimensional form of the media comprising a form generated by a Short-

Time Fourier Transform (STFT) method applied to a time-domain audio signal. However,

Malvar et al. teach the use of STFT applied to a time-domain audio signal (col. 5, lines 16-31

and col. 8, line 66—col. 9, line 14). Therefore, it would have been obvious to a person in the art

at the time the invention was made to modify the method disclosed in Ogino et al. to generate the

two-dimensional form of the media by using STFT. This modification would have been obvious

because a person having ordinary skill in the art, at the time the invention was made, would have

been motivated to do so since Malvar et al. suggest that the properties of STFT provide for

perfect signal reconstruction in col. 5, lines 22-26.

As per claim 18:

Ogino et al., Bradley et al., and Malvar et al. substantially teach the method of claim 17,

the Short-Time Fourier Transform method comprising a Modulated Complex Lapped

Transformation (MCLT) method (col. 5, lines 16-31).

XI.   Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogino et

al., US Pub. No. 2004/0003253 and Bradley et al., US Pub. No. 2002/0159614 as applied to

claims 16 above, and further in view of Alattar et al., US Pub. No. 2002/0009208.

As per claim 22:

Ogino et al. and Bradley et al. substantially teach the method of claim 16. Furthermore,

Ogino et al. teach the method further comprising: detecting at least one embedded mark utilizing

statistics based on a mean of each previously determined random area and a user id derived from

entry values of the random areas (par. 13-14 and par. 93-95); and determining user-specific data

derived from the embedded mark (par. 117). Not explicitly disclosed is wherein the user id is a

user key. However, Alattar et al. teach that the watermark key may be derived from unique user

attributes, i.e. user id (par. 244-245). Therefore, it would have been obvious to a person in the

art at the time the invention was made to modify the method disclosed in Ogino et al. to have the

random value of each area to be based at least in part on the user key. This modification would

have been obvious because a person having ordinary skill in the art, at the time the invention was

made, would have been motivated to do so since Alattar et al. suggest that using a user unique

feature to derive the watermark key allows for positive identification of the content in par. 243.

As per claim 23:

Ogino et al., Bradley et al., and Alattar et al. substantially teach the method of claim 22.

Furthermore, Alattar et al. teach detecting the embedded mark further comprising: decoding a

first embedded mark while treating a second embedded mark as interference (par. 71); decoding

the second embedded mark while treating the first embedded mark as interference (par. 71); and

Ogino et al. teach declaring a particular user mark exists when statistics indicate a value greater

than a predetermined threshold value (par. 118-119).

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Nadia Khoshnoodi whose telephone number is (571) 272-3825.

The examiner can normally be reached on M-F: 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Emmanuel Moise can be reached on (571) 272-3865. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

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information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nadia Khoshnoodi/
Examiner, Art Unit 2137
4/27/2008

NK

/Emmanuel L. Moise/
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